CLAIM AMENDMENTS:

Please amend the claims as follows:

1. (Currently amended) A method ~~of scrambling data~~ for generating parity codes of a data sector ~~arranging~~ arranged in an array of a plurality of rows having data information and main data ~~comprises~~, wherein outer-code parity is superior to inner-code parity, comprising:

scrambling a first ordering of the main data of the data sector in a first way, for [[to]] generating outer-code parity; and

scrambling a second ordering of the main data of the data sector in a second way, for [[to]] generating inner-code parity.

2. (Currently amended) The method as claimed in claim 1, wherein ~~after generating the outer-code parity,~~ the main data scrambled in the first way does not replace the main data ~~remains unchangeable~~ in a memory.

3. (Original) The method as claimed in claim 1, further comprising a step of deriving scrambling bytes from a known initial value by sequential calculating before scrambling..

4. (Currently amended) The method as claimed in claim 3, wherein the initial value is the first scrambling byte of the main data, and a first scrambling byte of the second row is derived by sequential calculating from the initial value.

5. (Currently amended) The method as claimed in claim 1, further comprising a step of deriving scrambling bytes from a known initial value by a provided vertical calculation mechanism.

6. (Currently amended) The method as claimed in claim 5, wherein the initial value is the first scrambling byte of the main data, and a first scrambling byte of the second row is derived by left shifting the initial value a plurality of byte and applying the provided vertical calculation mechanism bytes.

7. (Currently amended) The method as claimed in claim 1, wherein after generating the inner-code parity, the [[date]] data sector with the data information, the scrambled data due to generating inner-code parity, the inner-code parity, and the outer-code parity are recorded onto an optical disk.

8. (Currently amended) The method as claimed in claim 1, wherein the data information comprises ID (Identification Data), IED (ID Error Detection Code), RSV (Reverse), and EDC (Error Detection Code).

9. (Currently amended) A method for generating a recording data of an optical disk, wherein outer-code parity is superior to inner-code parity, comprising:

> receiving a plurality of data sectors, each data sectors having data information and main data[[,]] and each data sectors arrange arranged in an array of a plurality of rows;

> scrambling a first ordering of the main data of each corresponding data sector to generate in a first way and generating therefrom corresponding outer-code parity of each data sector;

> scrambling a second ordering of the main data of each corresponding data sector to generate in a second way and generating therefrom, and from outer-code parity, corresponding inner-code parity of each data sector; and

> recording the main data scrambled data due to generating the inner-code parity with respect to each in the second way, the data information, the inner-code parity, and the outer-code parity onto the optical disk,

wherein the outer-code parity is generating superior to the inner-code parity.

10. (Original) The method as claimed in claim 9, wherein the inner-code parity is attached to the corresponding main data row and attached to the corresponding outer-code parity.

11. (Original) The method as claimed in claim 9, further comprising a step of interleaving the outer-code parity to each corresponding data sector.

12. (Currently amended) The method as claimed in claim 9, wherein after generating the outer-code parity, the main data scrambled in the first way does not replace the main data of each data sectors remain unchangeable in a memory.

13. (Original) The method as claimed in claim 9, further comprising a step of deriving scrambling bytes from a known initial value by sequential calculating before scrambling.

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14. (Currently amended) The method as claimed in claim 13, wherein the initial value is the first scrambling byte of the main data, and a first scrambling byte of the second row is derived by sequential calculating from the initial value.

15. (Currently amended) The method as claimed in claim 9, further comprising a step of deriving scrambling bytes from a known initial value ~~by a provided vertical calculation mechanism~~.

16. (Currently amended) The method as claimed in claim 15, wherein the initial value is the first scrambling byte of the main data, and a first scrambling byte of the second row is derived by left shifting the initial value a plurality of ~~byte and applying the provided vertical calculation mechanism~~ bytes.

17. (Currently amended) The method as claimed in claim 9, wherein the data information comprises ID (Identification Data), IED (ID Error Detection Code), RSV (Reverse), and EDC (Error Detection Code).

18. (Original) The method as claimed in claim 9, wherein the optical disk is a DVD-R, a DVD+R, a DVD-RW, a DVD+RW, or a DVD-RAM.

19. (Currently amended) A method of repeatedly ~~writing a~~ reading main data ~~which~~ stored in a memory, ~~when~~ and recording an optical disk, comprising:

scrambling in a first way the main data directly ~~deriving~~ as read from the memory ~~to generate~~ in a first ordering and generating outer-code parity therefrom, wherein the main data remains unchanged in the memory;

scrambling in a second way the main data directly ~~deriving~~ as read from the memory ~~to generate~~ in a first ordering and generating inner-code parity therefrom and from the outer-coded parity; and

recording the main data scrambled ~~data due to generating the inner-code parity~~ in the second way, together with [[a]] corresponding data information, the inner-code parity and the outer-code parity, onto the optical disk, ~~wherein the main data remains unchangeable in the memory after generating the outer-code parity.~~

20. (Original) The method as claimed in claim 19, wherein the corresponding data information comprises ID (Identification Data), IED (ID Error Detection Code), RSV (Reverse), and EDC (Error Detection Code).

21. (Original) The method as claimed in claim 19, wherein the ID is generated according to a block position of recording the main data.

22. (Currently amended) The method as claimed in claim 19, wherein the outer-code parity is ~~generating~~ superior to the inner-code parity.

23. (Original) The method as claimed in claim 19, further comprising a step of deriving scrambling bytes from a known initial value by sequential calculating before scrambling.

24. (Currently amended) The method as claimed in claim 23, wherein the initial value is the first scrambling byte of the main data, and a first scrambling byte of the second row is derived by sequential calculating from the initial value.

25. (Currently amended) The method as claimed in claim 19, further comprising a step of deriving scrambling bytes from a known initial value ~~by a provided vertical calculation mechanism~~.

26. (Currently amended) The method as claimed in claim 25, wherein the initial value is the first scrambling byte of the main data, <u>and</u> a first scrambling byte of the second row is derived by left shifting the initial value a plurality of ~~byte and applying the provided vertical calculation mechanism~~ <u>bytes</u>.

27. (Original) The method as claimed in claim 19 wherein the optical disk is a DVD-R, a DVD+R, a DVD-RW, a DVD+RW, or a DVD-RAM.

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